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Automatic Target Recognition (Potential proposal)

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The subject of target recognition is a broad and difficult one. It is asking a machine to do what the human eye and brain do, and we do not really understand how the human mechanism does it. Current basic research seems to indicate that the eye is not just a seeing mechanism, but is actually an extension of the brain and performs operations of some sort before transmitting the information to the brain.

There has been great success in the field of character recognition or page reading by automatic machine but this is an entirely different problem and the character recognition solutions will not necessarily work on target recognition. In fact they haven't worked and automatic target recognition has been a dismal failure so far.

In order to bite off a chunk of this problem which is digestible, it is necessary to make a very simple problem and solve that successfully under using real continuous tone images. Laboratory simulations merely of input images is really a return to the character recognition problem.

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has some excellent talent and they have been considering the problem of target recognition for several years. As a result they have developed some very interesting concepts and feel that their ideas are ready for feasibility demonstration.

One very useful output of an automatic machine would be the rapid determination of whether or not there is man made culture in a scene. Such an output would permit assigning a priority to certain parts of the roll for examination. To detect culture may require a number of criteria, but certainly one of them is the presence of a lot of long straight lines.

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first effort will be a proposal to demonstrate the feasibility of their concepts to detect and perhaps count straight lines in real continuous tone photos. It is important that their whole chain detection be employed but it is not so important that the whole thing be automatized for showing feasibility so long as the extrapolation to automatizing is clear.

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